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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

WONG, ALLEN C

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2621

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/511,654	Applicant(s) BOUILLET ET AL.	
	Examiner Allen Wong	Art Unit 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 January 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5,9-19,21 and 22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5,9-19,21 and 22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 October 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

For the next communication, the applicant should provide the status identifiers with parentheses for canceled claims 6-8 and 20 (ie.(canceled)).

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/21/09 has been entered.

Response to Arguments

2. Applicant's arguments with respect to claims 1-5, 9-19 and 21-22 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 18-19 are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. Supreme Court precedent¹ and recent Federal Circuit decisions² indicate that a statutory "process" under 35 U.S.C. 101 must (1) be

¹ *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876).

² *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008).

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tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing.

While the instant claim recites a series of steps or acts to be performed, the claim neither transforms underlying subject matter nor is positively tied to another statutory category that accomplishes the claimed method steps, and therefore does not qualify as a statutory process.

For example, claim 18, the method of processing includes steps of “demodulating”, “error detecting”, “forwarding the first signal”, “forwarding a synchronization” and “generating” is of sufficient breadth that it would be reasonably interpreted as a series of steps completely performed mentally, verbally or without a machine. The Applicant has provided no explicit and deliberate definitions of “demodulating”, “error detecting”, “forwarding the first signal”, “forwarding a synchronization” and “generating” to limit the steps to the electronic form of the method, and the claim language itself is sufficiently broad to read on a printout, mentally stepping through the §101 analysis.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5, 9-19 and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamashita (5,506,903) and Boyce (6,317,462) in view of Komatsu (6,097,879).

Regarding claim 1, Yamashita discloses an apparatus for processing a received signal containing a datastream (col.6, ln.11-14 and fig.2 is an apparatus for processing a received datastream), comprising:

a signal decoder, the signal decoder generating a first error signal in response to indecipherable data received by the decoder (col.6, ln.49-53 and fig.2, element 23 is a Reed-Solomon decoder that generates a first error signal in response to unscrambled, indecipherable data received by the decoder); and

a transport processor, the transport processor receiving the first error signal, (col.6, ln.54-59, element 24 receives the first error signal produced by element 23 of fig.2).

Yamashita does not specifically disclose the transport processor generating a second error signal after receiving the first error signal. However, Boyce teaches generating the second error signal after receiving the first error signal (col.13, ln.1-7 and fig.5, element 507 generates the HP data stream that includes sequence error codes, ie. second error signal, after the output of the Reed-Solomon decoder 506, ie. first error signal). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Yamashita and Boyce, as a whole, for robustly producing high image quality for display with little packet loss that has low overhead and low delay (Boyce's col.3, ln.56-61).

Yamashita and Boyce do not disclose wherein the second error signal begins at an earlier time than an associated data packet, and wherein the second error signal ends at a later time than the associated data packet. However, Komatsu teaches wherein the second error signal begins at an earlier time than an associated data packet, and wherein the second error signal ends at a later time than the associated data packet (fig.12, note after time t, the section d shows that the phase error is at logical high or at, and note that after time t in section b when the clock starts at logical low or zero, the signal in section d is already at logical high, thus, the error signal begins at an earlier time than the associated data packet, and also, in section b, when clock goes from logical high and back to logical low, the error signal of section d is still at logical high, thus, the error signal ends at a later time than the associated data packet). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Yamashita, Boyce and Komatsu, as a whole, for efficiently encode and decode image data, while maintaining high image quality and minimizing erroneous data output.

Regarding claim 2, Yamashita discloses wherein the datastream comprises a modulated signal containing data packets (fig.2, element 20 and col.6, ln.15-18).

Regarding claim 3, Yamashita discloses the transport bus, the transport bus forwarding data packets to subsequent processing stages (col.6, ln.54-59, element 24 receives the first error signal produced by element 23 of fig.2, in that the data must be transported by a transport bus or any bus that permits the transmission of data for transmitting data) and the synchronization signal (col.5, ln.38-45, frame

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synchronization pattern is within the system data of the received signal for permitting the synchronization of the video and audio data at the decoding end). Yamashita does not disclose the transport processor generating the second error signal in response to receiving the synchronization signal. However, Boyce teaches generating the second error signal in response to the synchronization signal being received by the transport processor (col.13, ln.1-7 and fig.5, element 507 generates the HP data stream that includes sequence error codes, ie. second error signal, after the output of the Reed-Solomon decoder 506, ie. first error signal, and the synchronization data that is included when decoding MPEG header data). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Yamashita and Boyce, as a whole, for robustly producing high image quality for display with little packet loss that has low overhead and low delay (Boyce's col.3, ln.56-61).

Regarding claim 4, Yamashita discloses the transport bus (col.6, ln.54-59, element 24 receives the first error signal produced by element 23 of fig.2, in that the data must be transported by a transport bus or any bus that permits the transmission of data for transmitting data). Yamashita does not the second error signal. However, Boyce teaches the forwarding of the second error signal and with the data packets associated with the second error signal (col.13, ln.1-7 and fig.5, element 507 generates the HP data stream that includes sequence error codes, ie. second error signal, after the output of the Reed-Solomon decoder 506, ie. first error signal, and the synchronization data that is included when decoding MPEG header data). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of

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Yamashita and Boyce, as a whole, for robustly producing high image quality for display with little packet loss that has low overhead and low delay (Boyce's col.3, ln.56-61).

Regarding claim 5, Yamashita does not disclose wherein the second error signal is formed as a series of logical high frames, each logical high frame being associated with a data packet. However, Boyce teaches generating the second error signal after receiving the first error signal (col.13, ln.1-7 and fig.5, element 507 generates the HP data stream that includes sequence error codes, ie. second error signal, after the output of the Reed-Solomon decoder 506, ie. first error signal). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Yamashita and Boyce, as a whole, for robustly producing high image quality for display with little packet loss that has low overhead and low delay (Boyce's col.3, ln.56-61).

Regarding claim 9, Yamashita discloses further comprising a demodulator, the demodulator deriving the synchronization signal from the received signal (fig.2, element 20 and col.6, ln.15-18).

Regarding claim 10, Yamashita discloses wherein the transport processor is implemented as a microprocessor (col.6, ln.54-59, element 24 receives the first error signal produced by element 23 of fig.2).

Regarding claim 11, Yamashita discloses a system for generating an error signal based on an error encountered while processing a received signal which includes an image representative datastream containing data packets (col.6, ln.11-14 and fig.2 is an apparatus for processing a received video datastream), comprising:

a forward error detecting and correcting decoder which generates a first error signal (col.6, ln.49-53 and fig.2, element 23 is a forward error detection unit, ie. Reed-Solomon decoder, that generates a first error signal in response to unscrambled, indecipherable data received by the decoder);

a synchronization signal derived from the received signal (col.5, ln.38-45, frame synchronization pattern is within the system data of the received signal for permitting the synchronization of the video and audio data at the decoding end);

a transport processor interconnected to receive the first error signal and the synchronization signal (col.6, ln.54-59, element 24 receives the first error signal produced by element 23 of fig.2).

Yamashita does not specifically disclose the transport processor generating a second error signal in response to the first error signal and the synchronization signal. However, Boyce teaches generating the second error signal after receiving the first error signal and the synchronization signal (col.13, ln.1-7 and fig.5, element 507 generates the HP data stream that includes sequence error codes, ie. second error signal, after the output of the Reed-Solomon decoder 506, ie. first error signal, and the synchronization data that is included when decoding MPEG header data). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Yamashita and Boyce, as a whole, for robustly producing high image quality for display with little packet loss that has low overhead and low delay (Boyce's col.3, ln.56-61).

Yamashita and Boyce do not disclose wherein the second error signal begins at an earlier time than an associated data packet, and wherein the second error signal

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ends at a later time than the associated data packet. However, Komatsu teaches wherein the second error signal begins at an earlier time than an associated data packet, and wherein the second error signal ends at a later time than the associated data packet (fig.12, note after time t, the section d shows that the phase error is at logical high or at, and note that after time t in section b when the clock starts at logical low or zero, the signal in section d is already at logical high, thus, the error signal begins at an earlier time than the associated data packet, and also, in section b, when clock goes from logical high and back to logical low, the error signal of section d is still at logical high, thus, the error signal ends at a later time than the associated data packet). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Yamashita, Boyce and Komatsu, as a whole, for efficiently encode and decode image data, while maintaining high image quality and minimizing erroneous data output.

Regarding claim 12, Yamashita discloses further comprising a transport bus, the data packets being forwarded to subsequent processing stages via the transport bus (col.6, ln.54-59, element 24 receives the first error signal produced by element 23 of fig.2, in that the data must be transported by a transport bus or any bus that permits the transmission of data for transmitting data).

Regarding claim 13, Yamashita discloses the transport bus (col.6, ln.54-59, element 24 receives the first error signal produced by element 23 of fig.2, in that the data must be transported by a transport bus or any bus that permits the transmission of data for transmitting data). Yamashita does not the second error signal. However,

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Boyce teaches the forwarding of the second error signal and with the data packets associated with the second error signal (col.13, ln.1-7 and fig.5, element 507 generates the HP data stream that includes sequence error codes, ie. second error signal, after the output of the Reed-Solomon decoder 506, ie. first error signal, and the synchronization data that is included when decoding MPEG header data). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Yamashita and Boyce, as a whole, for robustly producing high image quality for display with little packet loss that has low overhead and low delay (Boyce's col.3, ln.56-61).

Regarding claim 14, Yamashita does not disclose wherein the data packets are forwarded as a series of discrete spaced apart frames, the second error signal being adapted to indicate an error in a defective data packet by having a duration that spans the frame of the defective data packet. However, Boyce teaches generating the second error signal as a series of discrete frames, each frame having a duration greater than an associated data packet (col.13, ln.1-7 and fig.5, element 507 generates the HP data stream that includes sequence error codes, ie. second error signal, to indicate defective packetized data, and after the output of the Reed-Solomon decoder 506, ie. first error signal, and col.6, ln.12-35, the series of discrete frames whereby each frame has a duration greater or larger than the associated packetized data). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Yamashita and Boyce, as a whole, for robustly producing high image quality for display with little packet loss that has low overhead and low delay (Boyce's col.3, ln.56-61).

Regarding claim 15, Yamashita does not disclose wherein the second error signal assumes a logical low state when no error is present in a data packet. However, Boyce discloses that the second error signal is in low logical state when errors are not detected (col.13, ln.1-7 and fig.5, element 507 generates the HP data stream that includes sequence error codes, ie. second error signal, after the output of the Reed-Solomon decoder 506, ie. first error signal, and if there is no error detected within the sequence codes, then the second error signal is in low logical status). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Yamashita and Boyce, as a whole, for robustly producing high image quality for display with little packet loss that has low overhead and low delay (Boyce's col.3, ln.56-61).

Regarding claim 16, Yamashita discloses wherein the forward error detecting and correcting decoder is a Reed-Solomon decoder (col.6, ln.49-53 and fig.2, element 23 is a forward error detection unit, ie. Reed-Solomon decoder, that generates a first error signal in response to unscrambled, indecipherable data received by the decoder).

Regarding claim 17, Yamashita discloses wherein the transport processor is implemented as a microprocessor (col.6, ln.54-59, element 24 receives the first error signal produced by element 23 of fig.2).

Regarding claim 18, Yamashita discloses a method for processing a received signal containing an image representative datastream containing data packets, a packet error signal generating method (col.6, ln.11-14 and fig.2 is an apparatus for processing a received video datastream) comprising the steps of:

demodulating the received signal to produce a demodulated signal (fig.2, element 20 and col.6, ln.15-18);

error detecting the demodulated signal to produce a first error signal (col.6, ln.49-53 and fig.2, element 23 is a forward error detection unit, ie. Reed-Solomon decoder, that generates a first error signal in response to unscrambled, indecipherable data received by the decoder);

forwarding the first error signal to a transport processor (col.6, ln.49-53 and fig.2, element 23 is a forward error detection unit, ie. Reed-Solomon decoder, that generates a first error signal in response to unscrambled, indecipherable data received by the decoder); and

forwarding a synchronization signal to the transport processor, thereby associating the first error signal with a particular data packet (col.5, ln.38-45, frame synchronization pattern is within the system data of the received signal for permitting the synchronization of the video and audio data at the decoding end).

Yamashita does not specifically disclose generating a second error signal in response to the synchronization signal being received by the transport processor. However, Boyce teaches generating the second error signal in response to the synchronization signal being received by the transport processor (col.13, ln.1-7 and fig.5, element 507 generates the HP data stream that includes sequence error codes, ie. second error signal, after the output of the Reed-Solomon decoder 506, ie. first error signal, and the synchronization data that is included when decoding MPEG header data). Therefore, it would have been obvious to one of ordinary skill in the art to

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combine the teachings of Yamashita and Boyce, as a whole, for robustly producing high image quality for display with little packet loss that has low overhead and low delay (Boyce's col.3, ln.56-61).

Yamashita and Boyce do not disclose wherein each discrete second error signal frame is started before an associated data packet, and each discrete second error signal frame is stopped after an associated data packet ends. However, Komatsu teaches wherein the second error signal begins at an earlier time than an associated data packet, and wherein the second error signal ends at a later time than the associated data packet (fig.12, note after time t, the section d shows that the phase error is at logical high or at, and note that after time t in section b when the clock starts at logical low or zero, the signal in section d is already at logical high, thus, the error signal begins at an earlier time than the associated data packet, and also, in section b, when clock goes from logical high and back to logical low, the error signal of section d is still at logical high, thus, the error signal ends at a later time than the associated data packet). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Yamashita, Boyce and Komatsu, as a whole, for efficiently encode and decode image data, while maintaining high image quality and minimizing erroneous data output.

Regarding claim 19, Yamashita does not disclose further comprising the step of generating the second error signal as a series of discrete frames, each frame having a duration greater than an associated data packet. However, Boyce teaches generating the second error signal as a series of discrete frames, each frame having a duration

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greater than an associated data packet (col.13, ln.1-7 and fig.5, element 507 generates the HP data stream that includes sequence error codes, ie. second error signal, after the output of the Reed-Solomon decoder 506, ie. first error signal, and col.6, ln.12-35, the series of discrete frames whereby each frame has a duration greater or larger than the associated packetized data). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Yamashita and Boyce, as a whole, for robustly producing high image quality for display with little packet loss that has low overhead and low delay (Boyce's col.3, ln.56-61).

Regarding claim 21, Yamashita discloses wherein the error detecting step comprises Reed-Solomon error detection and correction (col.6, ln.49-53 and fig.2, element 23 is a forward error detection unit, ie. Reed-Solomon decoder, that generates a first error signal in response to unscrambled, indecipherable data received by the decoder).

Regarding claim 22, Yamashita discloses an apparatus for processing a received signal containing a datastream (col.6, ln.11-14 and fig.2 is an apparatus for processing a received datastream), comprising:

a signal decoder, the signal decoder generating a first error signal in response to indecipherable data received by the decoder (col.6, ln.49-53 and fig.2, element 23 is a Reed-Solomon decoder that generates a first error signal in response to unscrambled, indecipherable data received by the decoder); and

a transport processor, the transport processor receiving the first error signal, (col.6, ln.54-59, element 24 receives the first error signal produced by element 23 of fig.2).

Yamashita does not specifically disclose the transport processor generating a second error signal after receiving the first error signal, wherein the second error signal is formed as a series of logical high frames, each logical high frame being associated with a data packet. However, Boyce teaches generating the second error signal after receiving the first error signal (col.13, ln.1-7 and fig.5, element 507 generates the HP data stream that includes sequence error codes, ie. second error signal, after the output of the Reed-Solomon decoder 506, ie. first error signal) and wherein the second error signal is formed as a series of logical high frames, each logical high frame being associated with a data packet (col.13, ln.1-7 and fig.5, element 507 generates the HP data stream that includes sequence error codes, ie. second error signal, in that the logical high frame represents a non-zero or high value that is associated with the data packet). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Yamashita and Boyce, as a whole, for robustly producing high image quality for display with little packet loss that has low overhead and low delay (Boyce's col.3, ln.56-61).

Yamashita and Boyce do not specifically disclose wherein each logical high frame of the second error signal begins at an earlier time than the data packet associated with the logical high frame, and wherein each logical high frame of the second error signal ends at a later time than the data packet associated with the logical

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high frame. However, Komatsu teaches that the error signal begins at an earlier time than the data packet associated with the logical high frame and each logical high frame of the second error signal ends at a later time than the data packet associated with the logical high frame (fig.12, note after time t, the section d shows that the phase error is at logical high or at, and note that after time t in section b when the clock starts at logical low or zero, the signal in section d is already at logical high, thus, the error signal begins at an earlier time than the data packet associated with the logical high frame, and also, in section b, when clock goes from logical high and back to logical low, the error signal of section d is still at logical high, thus, the error signal ends at a later time than the data packet associated with the logical high frame). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Yamashita, Boyce and Komatsu, as a whole, for efficiently encode and decode image data, while maintaining high image quality and minimizing erroneous data output.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen Wong whose telephone number is (571) 272-7341. The examiner can normally be reached on Mondays to Thursdays from 8am-6pm Flextime.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on (571) 272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Allen Wong
Primary Examiner
Art Unit 2621

/Allen Wong/
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2/13/09